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10/559,632	12/01/2005	Ivan Mortensen	5022424.114158	7294
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,632	Applicant(s) MORTENSEN, IVAN	
	Examiner AMY HE	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6-9,12-21 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 2-5,10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 6-9, 14 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Olsen et al. (U. S. Patent No. 6, 612, 810).

As for claim 1, Olsen et al. discloses a method of registering at least one lightning strike in the blade (25) of a wind turbine (see Figure 4), characterized in that the method comprises that the lightning strike is captured by a receptor (5) in the blade (25) of the wind turbine , from where a lightning current is completely or partially conducted through at least one electric resistor(heating element 4, see col. 4, lines 42-44; or a middle section of conductors 1, 2, or 3, can also be interpreted as resistors), thereby heating it; and that the lightning strike is registered on the basis of the increase in temperature of the resistor (the lightning strike is registered because of the change in temperature of the resistor).

As for claim 6, Olsen et al. discloses a wind energy plant (wind turbine as in Figure 1) comprising means for grounding a lightning current (see Figure 4), including at least one receptor (5) and at least one grounding connection (conductor 1, 2, or 3) from the receptor (5) to an external connection to ground (20), characterized in that the wind

energy plant comprises means (temperature sensor capable of measuring the increase in temperature, see col. 6, line 6) for measuring an increase in temperature in at least one electric resistor (heating element 4, see col. 4, lines 42-44; or a middle section of conductors 1, 2, or 3, can also be interpreted as resistors), wherein the resistor is connected to the receptor (5) or to the grounding connection (conductor 1, 2, or 3) in a position between the receptor (5) and the connection to ground (20), preferably by being inserted serially in the grounding connection and serially inserted between the grounding connection and the receptor (5).

As for claim 7, Olsen et al. discloses that the resistor and the receptor are interconnected or made integrally (receptor 5 is interconnected to 4 or the middle sections of 1, 2, or 3).

As for claim 8, Olsen et al. discloses that the at least one electric resistor is preferably arranged in a blade (25) of a wind turbine on the wind energy plant.

As for claim 9, Olsen et al. discloses that the wind energy plant comprises a number of receptors (5 on each blade 25), said receptors being each connected to an external connection to ground (20); and that at least one electric resistor is connected to each receptor (5) or to a grounding connection (1, 2, or 3) between each receptor (5) and the connection to ground (20) to which the receptor (5) is connected; and that the wind energy plant comprises means (temperature sensor, col. 6, line 6) for measuring an increase in temperature in each electric resistor.

As for claim 14, Olsen et al. discloses that means for measuring the increase in temperature in the electric resistor comprises a temperature sensor, which is capable of measuring an increase in temperature (col. 6, line 6).

As for claim 20, Olsen et al. discloses a system (in Figures 1 and 4) for use in the registration of at least one lightning strike in the blade (25) of a wind turbine (Figure 1), said system comprising means for grounding a lightning current, including at least one receptor (5) for mounting in the blade (25) of the wind turbine, and at least one lightning grounding cable (1, 2, or 3 connected to ground 20) coupled to the receptor (5), characterized in that the system comprises means (temperature sensor, col. 6, line 6) for measuring an increase in temperature in at least one electric resistor (heating element 4, see col. 4, lines 42-44; or a middle section of conductors 1, 2, or 3, can also be interpreted as resistors), wherein the at least one resistor is adapted to be coupled to the lightning grounding cable (1, 2, or 3 connected to ground 20) or to the receptor (5) and be inserted between the ground (20) and the receptor (5), respectively, in such a manner that the resistor will be heated by a lightning current.

As for claim 21, Olsen et al. discloses that the resistor is inserted serially in the lightning grounding cable (1, 2 or 3 connected to ground 20) and inserted serially between the ground (20) and the receptor (5), respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. (U. S. Patent No. 6, 612, 810), in view of Susnjara (U. S. Patent No. 5,331,330).

As for claims 12 and 16, Olsen et al. discloses a wind energy plant as in claims 6 and 9. Olsen et al. does not specifically disclose that the energy plant comprises means for monitoring and storing at least one of the parameters comprising the measured increase in temperature, a determined amount of energy and a determined point in time, registrations of lightning strikes, or characteristics of lightning strikes, said means comprising a computer unit arranged in direct or wireless connection with means for measuring the increase in temperature, and being preferably arranged in or at the wind energy plant, including in the blade.

Susnjara discloses using a computer unit with memory means for storing calculated data of a lightning strike for the purpose of displaying the calculated result (see computer 18 in Figure 1; Claims 7 and 8).

A person of ordinary skill in the art would find it obvious at the time the invention was made to modify Olsen et al. to disclose a computer unit with memory means, as taught by Susnjara, in connection with the temperature sensor, capable of monitoring and storing any desired parameter values, including the measured increase in temperature, a determined amount of energy and a determined point in time, registration of lightning strikes or any characteristics of the lightning strikes, for

displaying the data related to the lighting strikes for further analyzing or processing purposes.

3. Claims 13, 15, 17, 18, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. (U. S. Patent No. 6, 612, 810), in view of Yukio Fujiwara et al. (JP PN 59230172)(the rejection is based on the specification of the patent document).

As for claim 13, Olsen et al. does not specifically disclose that the means for measuring the increase in temperature (the temperature sensor, col. 6, line 6) comprises an electronic thermometer comprising a thermo-element, which thermo-element is arranged in thermally conductive contact with the electric resistor.

Yukio Fujiwara discloses a conventional thermocouple (11, 12) arranged in thermally conductive contact with an electric resistor (lightning arrester 1 in Figure 5), for measuring the temperature of the resistor.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Olsen et al. to disclose using a thermocouple, as taught by Yukio Fujiwara, as the temperature sensor, for measuring the increase in temperature of the resistor in the wind turbine of Olsen et al.

As for claim 15, Olsen et al. does not specifically disclose that the electric resistor is essentially enshrouded in thermally insulating material.

Yukio Fujiwara discloses an electric resistor (1 in Figure 5) essentially enshrouded in thermally insulating material (5).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Olsen et al. to disclose that the resistor is essentially enshrouded in thermally insulating material, as taught by Yukio Fujiwara, for the purpose of thermally protecting the resistor of Olsen et al.

As for claims 17 and 18, Olsen et al. does not specifically disclose that the wind energy plant comprises means of alerting or halting the wind energy plant at a given increase in temperature of the resistor; or means for dispatching an electronic message comprising data relating to the increase in temperature.

Yukio Fujiwara discloses means of alerting the wind energy plant at a given increase in temperature of the resistor; or means for dispatching an electronic message comprising data relating to the increase in temperature (i.e. the deterioration display device 14 in Figure 5).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Olsen et al. to disclose means of alerting the wind energy plant at a given increase in temperature of the resistor; or means for dispatching an electronic message comprising data relating to the increase in temperature, as taught by Yukio Fujiwara, for the purpose of displaying the detected temperature for reporting the current status of the resistor.

As for claims 25-26, Olsen et al. discloses the wind energy plant as in claim 6. Olsen et al. does not specifically disclose that the resistor is configured essentially as an elongate object having at its ends an increased expanse transversally to its longitudinal

axis; or the resistor is essentially rotationally symmetrical about its longitudinal axis and comprises an opening adapted for receiving a thermo-element.

Yukio Fujiwara discloses a resistor (1 in Figure 5) configured essentially as an elongate object having at its ends (8 and 9) an increased expanse transversally to its longitudinal axis; or the resistor (1) is essentially rotationally symmetrical about its longitudinal axis and comprises an opening adapted for receiving a thermo-element (11 and 12).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Olsen et al. to disclose that the resistor is configured essentially as an elongate object having at its ends an increased expanse transversally to its longitudinal axis; or the resistor is essentially rotationally symmetrical about its longitudinal axis and comprises an opening adapted for receiving a thermo-element, as taught by Yukio Fujiwara, for obtaining an excellent resistance characteristics (page 2, lines 4-10).

4. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. (U. S. Patent No. 6, 612, 810), in view of Kieser et al. (U. S. Patent No. 3, 760,346).

As for claim 27, Olsen et al. does not specifically disclose that the resistor is manufactured from stainless steel.

Kieser et al. discloses a resistor manufactured from stainless steel, in order to minimize unwanted air-cavity resonances (col. 5, lines 22-27).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Olsen et al. to disclose that the resistor is manufactured from stainless steel, as taught by Kieser et al., for reducing unwanted air-cavity resonances (col. 5, lines 22-27).

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. (U. S. Patent No. 6, 612, 810), in view of applicant's admitted prior art (hereinafter referred to as AAP)(see instant specification page 1, lines 21-26).

As for claim 19, Olsen et al. does not specifically disclose that the wind energy plant comprises means for registering a lightning current, including a lightning registration card comprising at least one magnet strip.

AAP discloses a means for registering a lightning current, including a lightning registration card comprising at least one magnet strip is known in the art (specification page 1, lines 21-26).

A person of ordinary skill in the art would find it obvious at the time the invention was made to modify Olsen et al. to incorporate the use of a means for registering a lightning current, including a lightning registration card comprising at least one magnet strip, as taught by AAP, for the purpose of determining the maximal lightning current received on the blade (specification page 1, lines 21-26).

Allowable Subject Matter

6. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed April 14, 2008 have been fully considered but they are not persuasive.

In response to applicant's argument that "Olsen does not disclose registering the lightning that strikes the blade", the examiner asserts that Olsen does disclose registering the lightning that strikes the blade. Specifically, Olsen et al. discloses that a lightning strike is captured by a receptor (5) in the blade (25) of a wind turbine, from where a lightning current is completely or partially conducted through at least one electric resistor (heating element 4, see col. 4, lines 42-44; or a middle section of conductors 1, 2, or 3, can also be interpreted as resistors), thereby heating it; and that the lightning strike is registered because of the heating of the heating element 4, or the middle section of conductors 1, 2, or 3, due to the lightning current.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY HE whose telephone number is (571)272-2230. The examiner can normally be reached on 9:30am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Diego Gutierrez/
Supervisory Patent Examiner, Art Unit 2831

Examiner: /Amy He/
Phone: (571) 272-2230
Fax: (571) 273-2230
E-mail: amy.he@uspto.gov